

Application No. 10/002,398  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

REMARKS

The instant Amendment is filed in response to the official action dated November 20, 2003. Reconsideration is respectfully requested.

Claims 1-7 are currently pending.

Claims 1-5 stand rejected.

Claims 1-4 and 6-7 have been amended.

Claim 5 has been canceled without prejudice.

Claims 8-9 have been added.

The Applicant respectfully points out that although page 1 of the official action indicates that claims 1-5 are pending in the instant application, claims 1-7 are actually currently pending. Claims 6-7 were added to the instant application by the Preliminary Amendment filed on October 25, 2001.

The Examiner has rejected claims 1-5 under 35 U.S.C. 103(a) as being unpatentable over Greer et al. (USP 3,591,291) in view of Sick et al. (USP 4,200,397) and Bucknell et al. (USP 6,111,653). Specifically, the official action indicates that the Greer reference shows arranging partial sensors so that they measure

Application No. 10/002,398  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

different angular ranges of light from a surface, but the Greer reference does not show the use of circular or annular detectors arranged concentrically. The official action further indicates that both the Sick and Bucknell references show that it is known to measure light from a surface using concentric circular or annular detectors to detect different angular ranges of light. The Applicant respectfully submits, however, that the official action fails to establish a *prima facie* case of obviousness, and therefore the rejections of the claims under 35 U.S.C. 103(a) are unwarranted and should be withdrawn.

It is well settled that a *prima facie* case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. The mere fact that the prior art may be modified in the manner suggested in the official action neither makes the modification *prima facie* obvious nor obvious unless the prior art suggested the desirability of the modification. Because the teachings of the cited references contain no motivation to modify or combine the references as suggested in the official action, a *prima facie* case of obviousness has not been

Application No. 10/002,398  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

established, and therefore the rejections of the claims under 35 U.S.C. 103(a) should be withdrawn.

The Applicant's measuring apparatus comprises a densitometer or a color measuring apparatus, both of which are used mainly in the printing or photographic fields (see page 1, lines 4-6 and 10-11, of the application). Those of ordinary skill in these arts will appreciate that the densitometer and color measuring apparatuses are used to measure parameters associated with non-translucent printing or photographic surfaces, which are traditionally substantially completely smooth. For example, the densitometer is used to measure parameters associated with non-transparent original surfaces to determine the color density of the individual color layers and to determine the shade value. Further, the color measuring apparatus is used to measure parameters associated with smooth printing or photographic surfaces to determine visual color impressions and their qualitative description through color values in different standardized color spaces (see page 1, lines 16-24, of the application).

Application No. 10/002,398  
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TC Art Unit: 2877  
Confirmation No.: 1040

In contrast, the measuring apparatuses disclosed in the Greer, Sick, and Bucknell references are used for significantly different purposes. For example, the measuring apparatus of the Greer reference is used to measure the roughness of a relatively smooth surface (see column 1, lines 6-8, of Greer et al.). Similarly, the apparatus of the Sick reference is used to detect the presence of bumps or depressions on a material surface (see column 3, lines 1-4, of Sick et al.). Moreover, the measuring apparatus of the Bucknell reference is used to measure the translucency of a material (see column 1, lines 3-4, of Bucknell et al.).

The Applicant respectfully asserts that the densitometer or color measuring apparatus recited in amended base claim 1 would normally not be used to measure the roughness of a surface, to detect the presence of bumps or depressions on a surface, or to measure the translucency of a material. In fact, rough surfaces having bumps or depressions, and translucent surfaces, are generally undesirable for use as printing or photographic surfaces. Because the Applicant's measuring apparatus and the measuring apparatuses disclosed in the cited references are employed for significantly different purposes, and because the

Application No. 10/002,398  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

measuring apparatuses operate on material having substantially different surface characteristics, one of ordinary skill in the printing and photographic arts would not be motivated to consult the cited references, much less modify or combine them as suggested in the official action, to obtain the apparatuses of claims 1-4 and 6-9. Accordingly, a *prima facie* case of obviousness has not been established, and therefore the rejections of amended claim 1 and the claims dependent therefrom under 35 U.S.C. 103 should be withdrawn.

Even if a *prima facie* case of obviousness were properly established, the suggested combination of the cited references still would not render claims 1-4 and 6-9 obvious. For example, amended base claim 1 recites a densitometer or color measuring apparatus including a photoelectric sensor and control electronics, in which the sensor includes at least two individually controllable and concentrically positioned partial sensors, and the control electronics includes switching means for selectively switching the partial sensors on or off line. As shown in Fig. 7 of the Greer reference, the measuring apparatus includes the sensors 108, 110, 112, and 114; however, these

Application No. 10/002,399  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

sensors are not individually controllable, as recited in amended claim 1.

Specifically, the sensor 108 of the Greer apparatus is not individually controllable, and cannot be selectively switched on or off line - the output of the sensor 108 is always applied to the log amplifier 128 (see Fig. 7 of Greer et al.). As a result, the sensor 108 is always on line. Further, the sensor 108 is always employed in conjunction with a respective one of the sensors 110, 112, or 114 - the sensor 108 cannot be individually controlled for use separate from the sensors 110, 112, and 114.

The Greer reference therefore teaches away from the subject matter of claims 1-4 and 6-9. For example, the Greer reference teaches that the sensor 108 is used in conjunction with the sensor 110, the sensor 112, or the sensor 114 to provide a measurement of the roughness of a surface - the sensor 108 cannot be used without one of the other sensors 110, 112, and 114 (see column 5, lines 1-29, of Greer et al.). In contrast, the instant application teaches that only the innermost circular sensor 41 may be used to detect data (see page 4, lines 14-18, of the application). The innermost circular sensor 41 of the instant application can

Application No. 10/002,398  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

therefore be individually controlled for use separate from the annular sensors 42-43 (see Fig. 2 of the application). Such use of the sensor 41 would be beneficial if the dimensions of the surface being characterized were relatively small. The Applicant respectfully submits that the Greer reference's "teaching away" from the disclosure of the instant application should properly be viewed as self-contained evidence of the public's not having the claimed invention in its possession. The Applicant further submits that neither the Sick reference nor the Bucknell reference cures this deficiency of the Greer reference.

In addition, new claims 8-9 recite that the partial sensors are constructed as a respective circular photodiode or photodiode arrangement, and at least one annular photodiode or photodiode arrangement. For example, the innermost sensor 41 is circular, while the outer sensors 42-43 are annular (see Fig. 2 of the application). The practical realization of the partial sensors 41-43 can be achieved by correspondingly shaped individual photodiodes or by photodiode arrangements, including a corresponding circular or annular array of several or many smaller photodiodes or similar photoelectric converters (see page 3, line 31, to page 4, line 3, of the application).

-11-

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Application No. 10/002,398  
Filed: October 25, 2001  
TC Art Unit: 2877  
Confirmation No.: 1040

Although the sensor 108 included in the Greer measuring apparatus (see Fig. 7 of Greer et al.) might be construed as an individual "circular" shaped photodiode, the Greer measuring apparatus clearly does not include at least one annular, i.e., "ring" shaped, photodiode or photodiode arrangement. Further, the Sick measuring apparatus includes three annular ring shaped photoelectric converter devices 14a-14c (see Fig. 4 of Sick et al.); however, the Sick apparatus does not include a respective circular shaped photodiode or photodiode arrangement. Similarly, the Bucknell measuring apparatus includes a photo-detector 14 consisting of concentric annular rings (see column 3, lines 60-61, and Fig. 1, of Bucknell et al.); however, the Bucknell apparatus does not include a respective circular shaped photodiode or photodiode arrangement, as recited in new claims 8-9, and as illustrated in Fig. 2 (element 41) of the application. Because new claims 8-9 depend from amended claim 1, claims 8-9 recite non-obvious subject matter that clearly distinguishes over the cited references.



Application No. 10/002,398  
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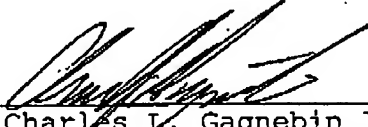
For at least the reasons outlined above, the Applicant respectfully submits that the rejections of the claims under 35 U.S.C. 103(a) are unwarranted and should be withdrawn.

In view of the foregoing, it is respectfully submitted that the present application is in a condition for allowance. Early and favorable action is respectfully requested.

The Examiner is encouraged to telephone the undersigned Attorney to discuss any matter that would expedite allowance of the present application.

Respectfully submitted,

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-13-

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